Amendm nts to th Claims

Please amend the claims as indicated below.

1. (Original) An apparatus for sensing seismic waves in the earth, the apparatus comprising:

(a) a housing;

(b) one or more seismic sensors disposed in the housing; and

(c) at least one isolator coupled to the one or more seismic sensors for isolating the one or more seismic sensors from high-g shock induced in the housing.

2. (Original) The apparatus of claim 1, wherein the at least one isolator is disposed to provide isolation from the induced vibrations in at least one predetermined direction.

3. (Original) The apparatus of claim 1 further comprising an electronics package disposed in the housing and wherein the at least one sensor form at least a portion of the electronics package.

4. (Original) The apparatus of claim 2, wherein the at least one predetermined direction further comprises directions along three translational axes and three angular axes.

5. (Original) The apparatus of claim 1, wherein the at least one isolator further comprises a layer of silicone rubber.

6. (Original) The apparatus of claim 1, wherein the at least one isolator further comprises a layer of polyurethane foam.

7. (Original) The apparatus of claim 1, wherein the at least one isolator further comprises a first layer of silicone rubber and a second layer of polyurethane foam.

8. (Original) The apparatus of claim 1 further comprising a block as an inertial mass operatively associated with the one or more sensors.

9. (Original) The apparatus of claim 1, wherein the one or more sensors are accelerometers.

10. (Original) The apparatus of claim 9, wherein the one or more accelerometer sensors are three accelerometers disposed to provide three orthogonal axes of sensitivity.

11. (Original) The apparatus of claim 9, wherein the one or more accelerometers are MEMS accelerometers.

12. (Original) The apparatus of claim 1 further comprising a cap coupled to the housing, the cap having a feedthrough for providing conductor access to the one or more seismic sensors.

13. (Original) The apparatus of claim 12, wherein the cap and housing are coupled to

form a sealed sensor module.

14. (Original) The apparatus of claim 13, wherein the sealed sensor module is hermetically sealed.

15. (Original) A seismic sensor module tolerant to high-g shock inputs comprising:

(a) a module case;

(b) a sensor assembly housed by the module case, wherein the sensor assembly includes an inertial mass and at least one seismic sensor coupled to the inertial mass; and

(c) at least one isolator coupled to the sensor assembly and the module case.

16. (Original) The seismic sensor module of claim 15, wherein the module case is adapted to provide a compressive force on the at least one isolator.

17. (Original) The sensor module of claim 15, wherein the at least one seismic sensor is a MEMS accelerometer.

18. (Original) The sensor module of claim 15, wherein the at least one isolator is disposed to provide isolation from the induced vibrations in at least one predetermined direction.

19. (Original) The sensor module of claim 18, wherein the at least one predetermined

direction further comprises directions along three translational axes and three angular axes.

20. (Original) The sensor module of claim 15, wherein the at least one isolator further comprises a layer of silicone rubber.

21. (Original) The sensor module of claim 15, wherein the at least one isolator further comprises a layer of polyurethane foam.

22. (Original) The sensor module of claim 15, wherein the at least one isolator further comprises a first layer of silicone rubber and a second layer of polyurethane foam.

23. (Original) The sensor module of claim 17, wherein the at least one MEMS accelerometer further comprises three MEMS accelerometers disposed to provide three orthogonal axes of sensitivity.

24. (Original) The sensor module of claim 15 further comprising a cap coupled to the module case, the cap having a feedthrough for providing conductor access to the one or more seismic sensors.

25. (Original) The sensor module of claim 24, wherein the cap and module case are sealed.

26. (Original) The sensor module of claim 25, wherein the sealed sensor module is hermetically sealed.

27. (Previously Presented) A seismic sensor module comprising:

(a) a module case;

(b) a sensor assembly coupled to the module case, the sensor assembly including one or more MEMS accelerometer seismic sensors; and

(c) an inertial mass coupled to the sensor assembly for providing noise reduction in the sensor module.

28. (Original) The seismic sensor module of claim 27, wherein the inertial mass is a block of metal.

29. (Cancelled)

30. (Currently amended)The seismic sensor module of claim ~~29~~ 27, wherein the one or more accelerometers are three accelerometers disposed to provide three orthogonal axes of sensitivity.

31. (Cancelled)

32. (Original) The sensor module of claim 27 further comprising a cap coupled to the module case, the cap having a feedthrough for providing conductor access to the one or more seismic sensors.

33. (Original) The sensor module of claim 32, wherein the cap and module case are sealed.

34. (Original) The seismic sensor module of claim 33, wherein the sealed sensor module is hermetically sealed.

35. (Currently Amended) A sensor module tolerant to high-g shock inputs comprising:

(a) a module case;

(b) a sensor assembly within the module case, the sensor assembly having an inertial mass coupled to the module case and ~~at~~ to one or more seismic sensors coupled to the inertial mass; and

(c) an isolation layer coupled to the module case and to the sensor assembly, wherein the sensor assembly does not move relative to the module case when an input force of less than a predetermined level is applied to the module case.

36. (Original) The sensor module of claim 35, wherein the predetermined level is 1g.

37. (Original) The sensor module of claim 35, wherein the at least one isolator is disposed to provide isolation from the induced vibrations in at least one predetermined direction.

38. (Original) The sensor module of claim 37, wherein the at least one predetermined

direction further comprises directions along three translational axes and three angular axes.

39. (Original) The sensor module of claim 35, wherein the at least one isolator further comprises a layer of silicone rubber.

40. (Original) The sensor module of claim 35, wherein the at least one isolator further comprises a layer of polyurethane foam.

41. (Original) The sensor module of claim 35, wherein the at least one isolator further comprises a layer of silicone rubber and a layer of polyurethane foam.

42. (Original) The sensor module of claim 35, wherein the one or more sensors are accelerometers.

43. (Original) The sensor module of claim 35, wherein the one or more sensors are three accelerometers disposed to provide three orthogonal axes of sensitivity.

44. (Original) The sensor module of claim 35, wherein the one or more sensors are MEMS accelerometers.

45. (Original) The sensor module of claim 35 further comprising a cap coupled to the module case, the cap having a feedthrough for providing conductor access to the one or

more seismic sensors.

46. (Original) The sensor module of claim 45, wherein the cap and module case are sealed.

47. (Original) The sensor module of claim 46, wherein the sealed sensor module is hermetically sealed.

48. (Original) A method of isolating one or more seismic sensor in a seismic sensor module from high-g shock loads while maintaining sensitivity to seismic waves, the method comprising:

(a) providing a housing for the seismic sensor assembly;

(b) installing one or more seismic sensors in the housing;

(c) providing at least one isolator between the one or more sensors and the housing.

49. (Original) The method of claim 48 further comprising coupling an inertial mass to the one or more seismic sensors.

50. (Original) The method of claim 48, wherein the at least one isolator is disposed to provide isolation from the induced vibrations in at least one predetermined direction.

51. (Original) The method of claim 50, wherein the at least one predetermined direction

further comprises directions along three translational axes and three angular axes.

52. (Original) The method of claim 48, wherein providing the at least one isolator further comprises providing a layer of silicone rubber.

53. (Original) The method of claim 48, wherein providing the at least one isolator further comprises providing a layer of polyurethane foam.

54. (Original) The method of claim 48, wherein providing the at least one isolator further comprises providing a layer of silicone rubber and a layer of polyurethane foam.

55. (Original) The method of claim 48 further comprising reducing noise during operation of the sensor module using an inertial mass coupled to the one or more sensors.

56. (Original) The method of claim 48, wherein the one or more sensors are accelerometers.

57. (Original) The method of claim 48, wherein the one or more sensors are three accelerometers disposed to provide three orthogonal axes of sensitivity.

58. (Original) The method of claim 48, wherein the one or more sensors are MEMS accelerometers.

59. (Original) The method of claim 48, wherein the sensor assembly further comprises a cap coupled to the housing, the cap having a feedthrough for providing conductor access to the one or more seismic sensors, the method further comprising sealing the cap and housing to form a sealed sensor module.

60. (Original) The method of claim 59, wherein the sealed sensor module is hermetically sealed.

61. (New) An apparatus for sensing seismic waves in the earth, the apparatus comprising:

(a) a housing having a wall; and

(b) one or more seismic sensors disposed in the housing, the housing wall having a thickness selected to provide wall flexure for damping high-g shock induced in the housing.

62. (New) An apparatus for sensing seismic waves in the earth, the apparatus comprising:

(a) a housing having a tapered wall; and

(b) one or more seismic sensors disposed in the housing to form a sensor module, the sensor being inserted into the ground for sensing the seismic waves in the earth, the housing wall having a longitudinal ridge to provide a key-type fit when the sensor module is inserted into the ground.